

ABSTRACT OF THE DISCLOSURE

A check valve assembly for the forced gas cooling system of a vacuum heat treating furnace is disclosed. The check valve assembly includes a check valve for installation on the exterior of a hot zone wall in a vacuum heat treating furnace. The check valve includes a valve body forming an inlet, an outlet, and a channel extending longitudinally through the valve body. The valve body has an inner wall that forms a recess near the inlet. The channel contains a flap pivotally supported on a shaft that extends through the recess. The flap pivots in and out of the channel to permit a cooling gas to flow through the valve body in one direction while substantially preventing the flow of gas through the valve body in the opposite direction. The flap is operable between a closed position in which the flap extends into the channel to obstruct the channel, and an open position in which the flap is pivoted out of the channel and into the recess. A vacuum heat treating furnace and a vacuum furnace hot zone utilizing the above-described check valve assembly are also described.